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SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 81 (2013) 609 – 612

Procedia
Social and Behavioral Sciences

1st World Congress of Administrative & Political Sciences (ADPOL-2012)

Technology in the Classroom: Target or Tool

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Abstract

Since the beginning of the last two decades of the past centuries, technology, more specifically computers, has advanced at an impressive rate, so fast and so drastically that almost all aspects of human life have been deeply affected. Concepts known for centuries have taken new meaning, and human behavior has become radically different from what it used to be only a few years ago. Not least of these human endeavors to be so much affected is education. Pedagogy has undergone so many changes that for a while one might start to think that the focus of education has shifted to technological improvements and innovations rather than remaining on the learner in the classroom. A huge industry has been built and marketing it has become big business worldwide. This paper, however, will try to show that the main purpose of education is the learner, regardless of the tools used towards the learning process. The paper will attempt to show that no matter how advanced and glorified technological advances can be, they will not replace the inventiveness and creativity of the teacher. The cyber world may have taken over many aspects of human life, but the classroom, with its human interaction between teacher and learner and among learners themselves, remains the main concern of the educator, regardless of the tools available.

Keywords: Education and Technology, Technology in the Classroom

1. Introduction

One of the issues that seems to unite people in all parts of the world is the importance laid on education. Education is a major concern in societies and has consequently undergone changes, sometimes major, other times not. Whether in the fields of educational philosophy, theories and approaches, or in the other fields of curriculum development and planning, teaching methodologies and techniques, and school applications, education has undergone upheavals of all different levels and magnitudes. From Plato to Dewey, and particularly throughout the twentieth century, educators have had to deal with such changes and constantly modify their conceptions and outlook as well as their applications and practices.

However, with the advent of the "technological revolution" and the increasingly widening use of computers in practically all walks of life, the speed with which advances have been made during the past two decades has left a large number of educators worldwide perplexed and, in many cases, unsure of how to cope. Classrooms are being redesigned, multimedia equipment purchased and installed, and teaching tools introduced with such speed that a

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doi:10.1016/j.sbspro.2013.06.484

large number of teachers are beginning to question the efficacy of such technological advances with regards to the quality of teaching.

This paper will not discuss the technical details of the changes that the technological revolution has brought to the classroom. It will, rather, examine the value of these changes in more practical terms as they become a major part of the teaching/learning process that is taking place in today's classroom.

Selfe and Hilligoss (1994) introduce their book of compiled articles by several other authors, entitled *Literacy and computers*, by claiming that "[c]omputers complicate the teaching of literacy" (1). This simple statement summarizes the feelings of many educators and teachers around the world. Consequently, a question is posed: "Now what?" Computers have become a fact of everyday life and they cannot be ignored just because they "complicate" things, especially after 18 years since the above statement was made, 18 years during which dazzling advances have been made that very few in the 1990s could have foreseen.

Most of the literature since the advent of the PC in the early 1980s and the Internet in the last decade of the century extols the advantages of computers in education. "Perhaps no single area of applied linguistics has seen such explosive growth over the past 15 years as computer-assisted instruction" (Richards & Rogers, 2001, xv). Some go even further to wonder as to how the generations before the technological revolution were ever able to learn: "As academics we come to view ICT [Information and Communication Technologies] as such a basic toolkit that it is almost impossible for us to envisage how our predecessors performed their various duties of teaching, assessment and research without it" (Fallows & Bhanot, 2005, 1). Erben, Ban & Castenda (2009) summarize works produced by other researchers, where claims are made to emphasize the benefits of computer-assisted learning. (See for example Brierley & Kemble, 1991; Abbot, 2001; Golden & Katz, 2008.)

It is not within the scope of this paper to delve into an extensive literature review, but rather to emphasize the notion that the added value which technology has placed on education is more of a fact than an issue. The issue, however, is whether learning can effectively occur without the extensive use of technology. As a teacher and educator for more than three decades, this author finds it very difficult to agree with approaches that imply that learning without the use of computers is deficient to computer-assisted learning.

Technology in the classroom has its own frustrations. Technical problems, such as a burnt out bulb on an LCD projector and computer freezing during a PowerPoint presentation to name a few, are too frequent to ignore. A teacher is a "multi-tasker." Teachers have to manage their classes, attend to student needs, keep time, evaluate performance, all simultaneously as they present their students with new material or direct student activities to enhance their learning. Having to worry about technical problems, some of which can upset the teacher's plan of presenting a lesson, is very frustrating. Many colleagues have expressed their concerns regarding this issue and have to make sure there is an alternate if the technology is not working. Institutions which insist that technology be used in the classroom must ensure technical assistance and high quality maintenance.

Another challenge is becoming technology-literate, both for teachers and for students. Most students already know how to text messages and to send emails, but problems arise when they are asked to work on a visual presentation or to upload and edit their work on their educational institution's software. Surely, education's role is to keep up with advances, whether in technology or in any other field, but when these advances seem to start to take over, the whole picture changes. "Many of the teachers are frustrated by their attempts to use computers in their classrooms, some so disillusioned that they have given up any real effort at curricular integration of the technology" (LeBlanc, 1994, 25).

"Never has technology been more important in the field of education" (Tiene & Ingram, 2001, 15). If this is the case, how can then educators get around the obstacles caused by the extensive introduction of technological tools into the classrooms? Many teachers cannot do so. Does this mean that such teachers' performance is less effective in the teaching/learning process than that of other teachers who are "fortunate" enough to incorporate these tools into their teaching techniques? Technology provides the teacher with the ability to use visuals, sound, music, interactive participation, to list a few, in the classroom. This ability should be considered paramount in raising student motivation which leads to a more efficient teaching/learning environment. However, Tiene & Ingram (2001) reflect on an article by Richard Clark published in 1983 in which he states that it is "the way the lesson was presented, not the medium used, that determined how effective it would be" (42). This explicitly confirms the importance of the lesson presentation and the activities involved, whether technology used or not. Student motivation for effective learning can very well be raised by conventional techniques as well as by the use of multi-media. Students

interacting in the classroom in an activity the topic of which is interesting to them will learn from that activity no matter what the medium used is. Technology can assist, but it certainly is not a necessity.

Today's educators agree that one of the most important roles of the teacher is to facilitate learning. They also seem to concur that student motivation is a major factor in the teaching/learning process. One must, therefore, infer that in order to prepare effective instruction, the teacher needs to facilitate learning by motivating students. Research into the effects of using technology in the classroom, conducted in the mid-1990s by the National Council for Educational Technology as cited in Capel, Leask and Turner (1999) lists 27 positive "ways" which technology provides to improve teaching and learning. When one goes down the list, one cannot help but wondering about the intrinsic value of these "ways" as compared to traditional classroom instruction preceding the technological revolution. For example, on the top of the list, one finds: "Children who use a computer at home are more enthusiastic and confident when using one in school" (41). What does this imply? As an educator, one learns that whatever is being practiced at home will be better performed elsewhere. This also applies to reading. Children who are used to reading at home will read better in school. It does not have anything to do with computers or technology. The second "way" on the list reads: "Video games can be educational if they are well managed" (41). Needless to say that this "way" applies to almost every endeavor inside and outside the classroom, from lesson plans to activities to homework assignments. As one reads down the list of the 27 "ways", one realizes that each one of them will apply to technology as well as to traditional ways of instruction.

This is where the major problem lies. When research comes up with the advantages of using technology, invariably these ways are basically the same as the advantages of professional traditional instruction. A claim made by technology enthusiasts is the open information found on the Internet. At face value, this may appear as an excellent advantage for both teacher and student. But is it so, really? In accessing information, one must decide on a variety of aspects: suitability of topic, level of structure, vocabulary used, style, appropriateness and attraction to students, and more. "Unfortunately, information of dubious quality and information inappropriate for school pupils is also easily available" (Capel, Leask & Turner, 1999, 43-44). It would now seem more appropriate to consult information from school and public libraries than to go on the Web. This information's dubiousness is not in question: After all, quality supersedes quantity. In any case, if students are to consult the Web for information, they should be instructed in the skills needed to choose credible and relevant information, a task which needs to be addressed before the information taken from Internet sources can be accepted.

Tiene & Ingram (2001) list "hardware, software, infrastructure, maintenance, personnel, materials, training, services, and utilities as typical costs of educational technology" (124). This is another aspect that one must consider in trying to plan for and utilize in the classroom. In order to fully use the technology potential, the classroom needs to be equipped with quite advanced equipment. Using an overhead projector and a transparency can provide quite an effective visual on which a teacher may base an activity. But is this what is referred to as the use of technology in the classroom? From various definitions about instructional technology, one discerns the availability of computers, smart boards, Internet access, instructional software, remote units for interactive responses, and more. How many schools can afford all the hard- and software involved? More importantly, how many teachers can effectively handle all the applications available and include them in the activities for students? And if teachers can be trained to do so, how long will this take and at what cost? Even more, should the application and training be on a school, district, or national level? Should there be a general strategy adopted or should the utilization be limited to specific activities in specific lesson plans? These and more questions are unavoidable and must be addressed. An experienced teacher can find answers to such reflections by maintaining focus on the teaching/learning process rather than on the novel gadgetry introduced into classrooms. Keeping the students motivated through interaction and cooperative learning, no matter what medium is used, should be the main objective of the teacher.

As LeBlanc (1996) aptly phrases it: "Computers in the Classroom: Dreams and Nightmares" (24), dreams may or may not be realized, and if they are that might take a very long time. What educators are left with are nightmares. To what extent these nightmares will affect the teaching/learning process remains to be seen. Until then, perhaps the most appropriate approach is to consider technology as a whole, and computers specifically, simply as another tool at the disposal of the educator, to use or not.

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